

DEPARTMENT OF THE ARMY
U.S. ARMY MEDICAL DEPARTMENT ACTIVITY
Fort Huachuca, AZ 85613-7079

MEDDAC Memorandum
No. 40-145

15 August 2006

Medical Services
TUBERCULOSIS PREVENTION PROGRAM

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1. HISTORY: This issue publishes a revision of this publication.

2. PURPOSE: The purpose is to delineate responsibilities and procedures in the identification, counseling, diagnosis, and treatment follow-up of individuals at risk for contracting tuberculosis.

3. APPLICABILITY: All military health care beneficiaries residing in the MEDDAC health service area and Department of Army Civilian employees at Fort Huachuca.

4. REFERENCES:

4.1 The Army latent tuberculosis infection surveillance and control program

4.2 AR 40-5, Preventive Medicine

4.3 AR 40-66 Medical Records Administration and Health Care Documentation

*This memorandum supersedes MEDDAC Memo 40-145, dtd 25 Oct 2004

4.4 Core Curriculum on Tuberculosis, U. S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for HIV, STD, and TB Prevention, Division of Tuberculosis Elimination, Current Edition

4.5 American Thoracic Society: Treatment of Tuberculosis and Tuberculosis Infection in Adults and Children

4.6 International Classification of Diseases, current edition, Clinical Modification

5. DEFINITIONS:

5.1 Tuberculosis. A disease produced by infection with *Mycobacterium tuberculosis*. For purposes of this instruction, persons infected with *M. tuberculosis* are considered to be in one of the following categories.

5.1.1 Active Disease. The person has symptoms, signs, radiographic, or laboratory evidence of pulmonary, laryngeal, meningeal, military, or extra-pulmonary tuberculosis. Pulmonary tuberculosis is the most common form of active disease, but not the only one. It causes the most concern because of the potential to transmit the infection to others by the airborne route. In general, such persons require treatment with multiple antibiotics, and will be under the care of a physician.

5.1.2 Latent Tuberculosis Infection (LTBI). The person has no symptoms, signs, or radiographic evidence of active disease, but does have evidence of infection, as indicated by the presence of a positive tuberculin skin test. For purposes of this program, all individuals who have a positive tuberculin skin test are considered to have a tuberculosis infection. Although such individuals may also have active disease, for purposes of this instruction, tuberculosis infection refers solely to individuals whose only evidence of tuberculosis infection is a positive tuberculin skin test and usually is not contagious.

5.1.3 Tuberculin Reaction. An area of induration to a 5 TU tuberculin skin test when read 48 to 72 hours after administration.

5.2 Tuberculin Non-reaction. No evidence of induration when a 5 TU tuberculin skin test is read at 48 to 72 hours.

5.3 TST reactor is defined as an individual who has a positive skin test per Centers for Disease Control and Prevention (CDC) guidelines.

5.4 TST converter is defined as an individual who has an increase of 10mm or greater in the size of induration within 2-year period, regardless of age.

6. RESPONSIBILITIES:

6.1 All Primary Care Clinic personnel will refer individuals over 12 years of age with positive TB test readings, based on CDC guidelines, to Preventive Medicine Wellness and Readiness Service (PMWARS), Community Health Nurse (CHN) via AHLTA consult. The consult must include name, current phone number, reading in mm, reason for PPD and any tests ordered. The consult is sent to PM1 code in AHLTA and the CHN will contact the person and make the appointment. Children under 12 will be referred to a pediatrician for evaluation. Occupational Health will send AHLTA referral to CHN for intake interview for all civilian employees will military benefits.

6.2 Community Health Nurse (CHN) conducts initial interview and education of individuals that are over 12 years of age that are referred with positive results, refers those individuals to Medical Consultant and provides follow-up by maintaining TB Registry and data base of those placed on preventive therapy.

6.3 Provider appointed by the DCCS provides medical consultation to the CHN, provides medical evaluation to individuals and initiates chemoprophylaxis as indicated, and refers those individuals placed on chemoprophylaxis to CHN for continued follow-up until therapy is completed.

6.4 Pediatrician will evaluate and follow individuals 12 years and younger. The pediatrician will do an evaluation to rule out active disease and order the Chest Xray(CXR) and/or other tests as indicated. The pediatrician will monitor patients during their course of therapy.

7. PROCEDURES:

7.1 Groups to be tested.

7.1.1 For individual not previously known to have a positive Tuberculin Skin Test (TST), skin tests will be administered to:

7.1.1.1 Health care beneficiaries based on risk in accordance with current CDC guidelines. Pregnancy and prior Bacille Calmette Guerin (BCG) vaccination are not contraindications to TST.

7.1.1.2 Personnel on initial entry for active duty of 30 days or more as part of reception processing. ROTC cadets participating in Advanced Camp training do not require TST testing.

7.1.1.3 Military personnel, civilian employees, contractors or family members who travel (permanent change of station or deploy) to and reside in a geographic area of the world where the endemic incidence rate of active tuberculosis disease is high (ie, equal to or greater than 25 new cases per 100,000 persons annually). TSTs should be performed both prior to and after completion of travel. Deploying personnel should have a TST performed prior to travel, at the time of redeployment, and again 3 to 6 months after redeployment. The following areas are considered low threat areas for tuberculosis. Personnel who travel only to these locations do not require skin testing: Canada, Greenland, Iceland, Cuba, Chile, Costa Rica, France, Guiana, British Isles, Norway, Sweden, Finland, Denmark, France, Belgium, Netherlands, Luxembourg, Monaco, Switzerland, Austria, Germany, Czech Republic, Italy, Greece, Cyprus, Australia, New Zealand, Lebanon, Libya, Jordan, United Arab Emirates, Oman, Qatar.

7.1.1.4 Military personnel undergoing separation, or retirement physical examination, unless one has been administered within the past 12 months.

7.1.1.5 Prospective employees (military and civilian), and volunteers as a condition for employment in health care facilities, schools, or in other facilities where tuberculosis transmission is of substantial concern, as defined by the CDC, state law or local ordinance. Additional periodic screening will be based on occupational risk.

7.1.1.6 Contractors will include requirements for all contractors to undergo tuberculin skin testing whenever employees are working in an environment in which Department Of Defense (DoD) employees would normally be required to undergo this testing. Tuberculin skin testing will be paid for by the contractor.

7.1.2 High-Risk groups are based upon published reports in the medical literature and CDC surveillance data, the Advisory Council for the Elimination of Tuberculosis (ACET) recommends that the following groups be screened for TB disease and TB infection:

7.1.2.1 Close contacts (i.e., those sharing the same household or other enclosed environments) of persons known or suspected to have TB.

7.1.2.2 Persons infected with Human Immunodeficiency Virus(HIV).

7.1.2.3 Persons who inject illicit drugs or other locally identified high-risk substance users (e.g., crack cocaine users).

7.1.2.4 Persons who have medical risk factors known to increase the risk for disease if infection occurs.

7.1.2.5 Residents and employees of high-risk congregate settings (e.g., correctional institutions, nursing homes, mental institutions, other long-term residential facilities, and shelters for the homeless).

7.1.2.6 Health-care workers who serve high-risk clients.

7.1.2.7 Foreign-born persons, including children, recently arrived (within 5 years) from countries that have a high TB incidence or prevalence.

7.1.2.8 Some medically underserved, low-income populations.

7.1.2.9 High-risk racial or ethnic minority populations, as defined locally; and infants, children, and adolescents exposed to adults in high-risk categories.

7.1.3 For individuals known to have a positive TST previously, as per CDC guidelines based on risk, no further TSTs will be applied. Exceptions to this rule to be considered include: clinically valid doubt about previously recorded results (e.g. talking with the patient reveals that prior reading ignored induration), borderline result categorized as "positive" at prior test time (e.g., 9mm reaction in a patient with questionable risk factors, not previously treated); and those cases for whom a 10mm increase in reaction size or other factors might warrant treatment.

7.2 Tuberculosis Skin Testing.

7.2.1 The standard tuberculin skin test to be used by the US Army Medical Department is the Mantoux test (as described below). While other tests for tuberculosis are available (e.g. multi-puncture devices/tine tests), these are not reproducible and are less sensitive and should not be used.

7.2.2 The Mantoux test is the intradermal injection of 0.1 milliliter of purified protein derivative (PPD) tuberculin containing 5 tuberculin units. Administration, classification and interpretation of reactions to the Mantoux will be according to guidelines published by the CDC. The injection should be made with a disposable tuberculin syringe just beneath the surface of the skin with the needle bevel facing upward. This should produce a discrete, pale elevation of the skin (a wheal) 6mm to 10mm in diameter. If the test has been given too shallow, too deep or improperly, immediately repeat the test on the other arm. The area of induration (Palpable raised hardened area) around the site of infection is the reaction to tuberculin. The diameter of the indurated area should be measured across the forearm (perpendicular to the long axis). Erythema (redness) should not be measured. All reactions should be recorded in millimeters, even those classified as negative. If no induration is found, "0mm" should be recorded. Reactions as small as 5 mm may be classified as "positive," depending on the presence of various risk factors. If the reading is indeterminate or the patient fails to return within 72 hours, the tuberculosis test should be very carefully repeated in the opposite arm unless one of the following factors is present.

7.2.2.1 Readable induration may persist up to one week after test placement. If the result is clearly positive after 96 hours, the patient should be referred to the CHN.

7.2.2.2 There is suspicion of hypersensitivity to a component of PPD based on history or residual clinical findings.

7.2.3 TST sensitivity and immunity to tuberculosis after receiving BCG vaccine is highly variable. As well, there is no reliable method for distinguishing tuberculin reactions caused by BCG from those caused by natural infection. Since the incidence positive TST should be evaluated independently of BCG history. See CDC guidelines.

7.2.4 Administration and reading of TSTs require special training and should require written certification of such individuals. Qualified personnel will receive annual retraining in the administration, reading and documentation of TSTs.(Needs to be added to competency verification worksheet)

7.2.5 TST may be placed concurrently with live-virus vaccines or delayed until at least 4 weeks after live-virus vaccine administration.

7.2.6 To reduce the likelihood that a boosted reaction will be misinterpreted as recent infection, two-step testing should be conducted as the initial testing for person who will be tested periodically, i.e., health care workers. In two-step testing, if an initial placement is negative, a second test is placed 1-3 weeks later on the other arm. A positive result indicates the second test is probably a boosted reaction (past infection or previous BCG immunization). The individual should be managed based on the results of the second test. If a boosted reaction is observed, it is not considered a skin test conversion. If the second test is negative, consider the person uninfected.

7.2.7 If the person does not return at all, enter "not read "on the SF Form 601, (Immunization Record) or DD Form 2766, (Adult Preventive and Chronic Care Flowsheet).

7.2.8 Based on CDC guideline, 5mm is considered a positive test if one of the risk factors are present.

7.2.8.1 HIV positive persons.

7.2.8.2 Recent contacts of TB case.

7.2.8.3 Persons with fibrotic changes on chest radiograph consistent with old healed TB.

7.2.8.4 Patients with organ transplants and other immunosuppressed patients.

7.2.9 Documentation in the immunization record will include the measurement in millimeters and not just positive/negative results. If no induration, write 0mm. The individual who gives the PPD should document initials by the date, and initialed by the person who reads the test results in the DA 2766 (Immunization record in front of hard copy medical record). If Active Duty Army, documentation needs to be placed in the MEDPROS account for soldier readiness.

7.3 Evaluation and Referral.

7.3.1 Medical Evaluation. For individuals identified for the first time as TST-positive, a medical evaluation (as defined in the CDC guidelines) will be performed to determine if active disease is present and to determine if there are risks or contraindications to chemoprophylaxis. The evaluation will include a careful medical history eliciting signs or symptoms suggestive of infection and a chest x-ray. A posterior-anterior radiograph of the chest is the standard view used for the

detection and description of chest abnormalities. In some instances other views (e.g., lateral, lordotic) or additional studies (e.g., CT scans) may be necessary. Information on medical history and results of diagnostic tests (e.g., chest radiographs) will be entered in the medical record.

7.3.2 Individuals with a positive TST will be referred to Army Community Health Nurse for initial TB workup and referred for a medical evaluation by the C, Internal Medicine or Pediatrician for consideration of preventive treatment for LTBI.

8. TREATMENT AND MONITORING OF LTBI:

8.1 Treatment Regimens. Treatment regimens have been published by the CDC and provide guidance on drugs, intervals and duration for LTBI treatment. Selection of the appropriate regimen is based on clinical evaluation and consultation with a physician. Preferred specialists for prescribing initial treatment are physicians certified in a preventive medicine specialty (including public health and occupational medicine), internal medicine, credentialed community health nurses with prescriptive authority. If there is any doubt about the possibility of active disease, the preferred consultant is a pulmonary or infectious diseases specialist.

8.2 Treatment of individuals with LTBI who are deploying may be deferred. Recommendation for deferral is made by the Medical Consultant on a case-by-case basis. Relevant factors to consider in this decision include how recently the infection occurred, operational duties of the individual, and the capabilities of medical support during deployment.

8.3 For pregnant women with LTBI, decisions to initiate prophylactic treatment will be made in consultation with the practitioner managing her pregnancy.

8.4 Patients on chemoprophylaxis for LTBI will be provided appropriate education on the disease process and medication.

8.5 For children under the age of 12, the decision to initiate treatment will be made by a pediatrician. The responsibility for follow-up visits and monitoring of pediatric patients will be made by the Chief, Pediatrics.

8.6 Baseline laboratory testing is not indicated routinely at any age. Local policy from C, Internal Medicine (or DCCS designee) is to order baseline hepatic enzymes before treatment begins. Laboratory monitoring during treatment is indicated for patients with abnormal baseline evaluation, high risk for hepatic disease, HIV, pregnancy or other symptoms of hepatotoxicity. If transaminase levels exceed three times the upper limit of the normal range of the laboratory, CHN will notify the designated provider for LTBI or other appropriately privileged provider makes a recommendation on the continuation of treatment with consideration of tuberculosis disease risk and the need for close clinical monitoring.

9. DOCUMENTATION AND TRACKING:

9.1 The date of testing for all TSTs on active duty, USAR and National Guard soldiers will be entered into the database of the Military Occupational Database System/Medical Protection System (MODS/MEDPROS). Individuals with positive test results, as per CDC guidelines, will have the medical exemption code, Medical Permanent (MP) entered into MODS/MEDPROS, to document no further testing. The test results, manufacturer and lot numbers for all TSTs will be documented in the medical record and shot records. Upon redeployment, deployment-related fields will be updated in MODS/MEDPROS including: dates of departure and return, deployment location and the name of the operation.

9.2 In addition, a local tuberculosis registry will be maintained by Army Community Health Nursing of all persons under treatment for active disease and LTBI. This registry will also include contacts of active disease cases requiring medical follow-up. DA Form 3897-R (Tuberculosis Registry) will be used for this purpose.

9.3 For personnel being treated for LTBI who are undergoing a change of station, DA Forms 3897-R (Tuberculosis Registry) and 3763 (CHN referral) will be mailed or sent electronically to the supporting Preventive Medicine Service of the gaining organization to ensure continuity of care. If there is no MTF available, the person will be referred to the local public health department or designated health care provider. The individual will be counseled prior to his or her departure.

9.4 For personnel under treatment departing military service, CHN will notify the appropriate health department where the individual will be living. For Reserve and National Guard

soldiers leaving active duty, a referral will be made to the soldier's home unit where follow-up will be conducted under the Feds Heal program. The Veterans Administration ordinarily assumes responsibility for separated military members who are under active surveillance for LTBI.

9.5 Medical records will be annotated to reflect TST test results, to include a specific record of the size of induration. Lot number and manufacturer of PPD material used must be recorded, along with the date and name of the test interpreter. Personnel are not authorized to read their own skin tests. For individuals with a documented history of a prior positive TST, an annotation will be made in the medical record to reflect when that evaluation was performed. If anti-TB therapy had been instituted, this information, along with details of duration of therapy and recommendations for follow-up, will be recorded in the record. TST results will be documented on the DD 2766, on HHS Form PHS 731 (International Certificates of Vaccination) and in the MOD/MEDPROS for active duty soldiers.

10. CODING: The following International Classification of Diseases, 9th edition, Clinical Modification (ICD-9-CM) codes are to be used for entering visits related to tuberculosis.

10.1 V74.1 Screening examination for pulmonary tuberculosis.

10.2 V01.89 Contact with or exposure to other communicable diseases.

10.3 V01.1 Contact with or exposure to tuberculosis.

10.4 V68.1 Issue of repeat prescriptions.

10.5 V07.39 Prophylactic Chemotherapy

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The proponent of this publication is Preventive Medicine Wellness and Readiness Service. Users are invited to send comments and suggested Improvements on DA FORM 2028 directly to USA MEDDAC, Preventive Medicine Wellness and Readiness Service, ATTN: MCXJ-PM, Fort Huachuca, AZ 85613-7079

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APPENDIX A
TB WORK UP (RWBAHC OVERPRINT 288)

MEDICAL RECORD-SUPPLEMENTAL MEDICAL DATA <small>For use of this form, see AR 40-66; the proponent agency is the Office of The Surgeon General.</small>		
REPORT TITLE TB WORK UP	OTSG APPROVED (Date) (YYYYMMDD)	
<p>S: _____ years old M F referred from _____ positive PPD _____ mm</p> <p>Last known negative PPD _____ Previous INH begin _____ completed _____</p> <p>Contact to active TB NO _____ YES _____ (explain) _____</p> <p>Overseas assignment / travel _____</p> <p>Symptoms: Pulmonary (cough, expectoration, hemoptysis, dyspnea, wheeze, chest pain) _____</p> <p>Systemic (night sweats, fever, anorexia, weight loss, malaise, weakness) _____</p> <p>Liver disease (dark urine, jaundice) _____</p> <p>History: Major illnesses _____</p> <p>Medication usage _____ Allergies _____</p> <p>Surgery _____ Birth control _____ Pregnant _____</p> <p>Alcohol intake _____ Tobacco use _____</p> <p>O: Appears healthy YES _____ NO _____ (explain) _____</p> <p>Review of health record YES _____ NO _____ PPD _____</p> <p>Chest X-Ray _____ Date: _____</p> <p>A: Patient is a TB reactor YES _____ NO _____ TB converter (within past 2 years) YES _____ NO _____</p> <p>P: _____ Explain meaning of positive PPD _____ Explain contraindications for further TB Skin testing</p> <p>_____ Explain need for CXR, lab work, medication compliance, and keeping follow-up appointments</p> <p>E: _____ Education / information provided to patient / family _____ Literature provided</p> <p>_____ INH fact sheet given to patient and / or family _____ Patient verbalizes understanding</p> <p>_____ Addressed barriers to learning with patient / family</p> <p>_____ Referral sent to Internal Medicine for evaluation for treatment</p> <p>_____ Appointment scheduled</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>		
PREPARED BY (Signature & Title)	DEPARTMENT/SERVICE/CLINIC PMWARS CHN	DATE
<p>PATIENT'S IDENTIFICATION (For typed or written entries give: Name - last, first, middle; grade; date; hospital or medical facility)</p> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p><input type="checkbox"/> HISTORY/PHYSICAL</p> <p><input type="checkbox"/> OTHER EXAMINATION OR EVALUATION</p> <p><input type="checkbox"/> DIAGNOSTIC STUDIES</p> <p><input type="checkbox"/> TREATMENT</p> </div> <div style="width: 45%;"> <p><input type="checkbox"/> FLOW CHART</p> <p><input type="checkbox"/> OTHER (Specify)</p> </div> </div>		

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APPENDIX B
ISONIAZID (INH) FLOW SHEET (RWBAHC OVERPRINT 2890)

MEDICAL RECORD-SUPPLEMENTAL MEDICAL DATA												
For use of this form, see AR 40-66; the proponent agency is the Office of The Surgeon General.												
REPORT TITLE ISONIAZID (INH) FLOW SHEET										OTSG APPROVED (Date) (YYMMDD)		
Date Started INH _____												
Today's Date: _____												
# Months of IHN: _____												
Subjective												
Fatigue												
Nausea												
Loss of Appetite												
Dark Urine												
Light Stools												
Joint Pain												
Loss of Weight												
Visual Changes												
Elevated Temperature												
Tingling Hands/Feet												
Objective												
Rash												
Icterus												
Other												
Assessment												
Patient taking Medication												
Side effects noted												
Plan/Action												
Refill INH#30												
Start/Refill B6 #30												
Patient Guidance Provided												
Repeat Liver Function Test												
Discontinue INH												
Refer To MD												
Referral to Next Duty Station												
Next Appointment Date _____												
Interviewer's Name _____												
Comment Section												
PREPARED BY (Signature & Title)						DEPARTMENT/SERVICE/CLINIC			DATE			
PATIENT'S IDENTIFICATION (For typed or written entries give: Name - last, first, middle; grade; date; hospital or medical facility)						<input type="checkbox"/> HISTORY/PHYSICAL			<input type="checkbox"/> FLOW CHART			
						<input type="checkbox"/> OTHER EXAMINATION OR EVALUATION			<input type="checkbox"/> OTHER (Specify)			
						<input type="checkbox"/> DIAGNOSTIC STUDIES						
						<input type="checkbox"/> TREATMENT						

DA FORM 4700, FEB 2003

EDITION OF MAY 78 IS OBSOLETE RWBAHC OP 289, 1SEP04

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APPENDIX C
TUBERCULOSIS REGISTRY (DA FORM 3897-R FRONT)

Name (Last, First)		1	2	3	4	5	6	7	8	9	10	11	12
Date of Birth	Status AD RET DEP OH	Branch Army Navy Marine AF Other (specify)											
SPONSOR	RANK	SSN				UNIT ADDRESS				DUTY PHONE			
HOME ADDRESS										HOME PHONE			
ACTIVE CASE													
ADMITTED YES NO		ADMITTED DATE		DISCHARGE DATE		*ATS CODE		CONTACTS CHECKED YES NO					
CONTACT													
CLOSE CASUAL		CONTACT OF				DATE CONTACT TERMINATED							
CONVERTER/REACTOR													
SKIN TEST RESULTS				LAST NEGATIVE SKIN TEST				CONTACTS CHECKED					
DATE		TYPE		SIZE		DATE		TYPE		YES NO			
DRUG REGIMEN													
DATE STARTED		TYPE		DOSE		FREQUENCY		LENGTH OF THERAPY					
		INH PYRIDOXINE		300 mg 50 mg		1 DAILY		9 MO 12 MO					
DOT THERAPY YES NO													

DA FORM 3897-R, AUG 90 PREVIOUS EDITIONS OBSOLETE TUBERCULOSIS REGISTRY
FOR USE OF THIS FORM, SEE AR40-5 OPONENT AGENCY IS THE OTSG

TUBERCULOSIS REGISTRY (DA FORM 3897-R BACK)

REPORTED TO STATE LOCAL HEALTH DEPARTMENT (If yes, list name of State or Local Health Department and Date reported! ____ Yes ____ No									
X-RAY FINDINGS DATE:									
DATE	TEST RESULTS				DATE	NOTES			
	ALP	AST	ALT	TB					
OTHER TEST:									

Reverse of DA Form 3897-R Aug 90

APPENDIX D
PPD REFERRAL FLOWSHEET

PPD REFERRAL TO COMMUNITY HEALTH NURSE

